

**What is Claimed is:**

1. A testing device for detecting and locating an arcing fault in an electrical system, said arcing fault having a plurality of characteristics, said testing device comprising:

means for detecting at least one of the characteristics of said arcing fault proximate said arcing fault and outputting a responsive signal; and means for annunciating said responsive signal when said means for detecting is proximate said arcing fault, in order to locate said arcing fault in said electrical system.

2. The testing device as recited in Claim 1 wherein said means for annunciating comprises a visual indicator.

3. The testing device as recited in Claim 2 wherein said visual indicator is a display.

4. The testing device as recited in Claim 1 wherein said means for annunciating comprises an audible indicator.

5. The testing device as recited in Claim 4 wherein said audible indicator is a speaker.

6. The testing device as recited in Claim 1 wherein one of said at least one of the characteristics is a radio frequency signal; and wherein said means for detecting includes an antenna for receiving the radio frequency signal and a radio frequency detector for detecting the received radio frequency signal.

7. The testing device as recited in Claim 1 wherein one of said at least one of the characteristics is an ultrasonic sound; and wherein said means for detecting includes a pick-up coil for receiving the ultrasonic sound and outputting a corresponding electrical signal, and means for detecting the electrical signal.

8. The testing device as recited in Claim 1 wherein one of said at least one of the characteristics is an audible sound; and wherein said means for detecting includes a pick-up coil for receiving the audible sound and outputting a corresponding electrical signal, and means for detecting the electrical signal.

9. The testing device as recited in Claim 1 wherein one of said at least one of the characteristics is a signal having a frequency; and wherein said means

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for detecting includes means for receiving said signal having the frequency and outputting a corresponding electrical signal, and means for detecting the electrical signal.

10. A testing device for detecting and locating an arcing fault in an electrical system having a plurality of electrical conductors, said arcing fault having a plurality of characteristics, said testing device comprising:

means for locating the electrical conductors of said electrical system;

means for detecting at least one of the characteristics of said arcing fault proximate one of said electrical conductors and outputting a responsive signal; and

means for annunciating said responsive signal when said means for detecting is proximate said arcing fault.

11. The testing device as recited in Claim 10 wherein said means for locating the electrical conductors comprises means for generating a signal having a frequency in said electrical conductors, means for detecting said signal having the frequency proximate one of said electrical conductors and outputting a second responsive signal; and means for annunciating said second responsive signal when said means for detecting said signal having the frequency is proximate said one of said electrical conductors.

12. The testing device as recited in Claim 11 wherein said means for generating a signal having a frequency comprises an alternating current plug having at least two prongs, and a transmitter structured to generate said signal having the frequency between the prongs of said alternating current plug.

13. The testing device as recited in Claim 12 wherein the prongs of said alternating current plug are structured to engage an alternating current receptacle.

14. A testing device for detecting faults in an electrical system, and for detecting and locating an arcing fault in said electrical system, said arcing fault having a plurality of characteristics, said testing device comprising:

means for testing said electrical system to detect at least one fault in said electrical system;

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means for detecting at least one of the characteristics of said arcing fault proximate said arcing fault and outputting a responsive signal; and

means for annunciating said responsive signal when said means for detecting is proximate said arcing fault.

15. The testing device as recited in Claim 14 wherein said means for testing includes means for conducting a ground fault test of said electrical system.

16. The testing device as recited in Claim 15 wherein said means for conducting a ground fault test includes first means for engaging a line conductor of said electrical system, second means for engaging a ground conductor of said electrical system; and means for adjusting a load between said first and second means, in order to provide between about 6 to 100 mA of leakage current in said line conductor and said ground conductor.

17. The testing device as recited in Claim 14 wherein said means for testing includes means for conducting an open neutral, line or ground test of said electrical system.

18. The testing device as recited in Claim 14 wherein said means for testing includes means for conducting a hot and neutral reversed test of said electrical system.

19. The testing device as recited in Claim 14 wherein said means for testing includes means for conducting a grounded neutral test of said electrical system.

20. The testing device as recited in Claim 14 wherein said means for testing includes means for detecting and annunciating said at least one fault in said electrical system.

21. The testing device as recited in Claim 20 wherein said means for detecting and annunciating includes a speaker for audibly annunciating said at least one fault.

22. The testing device as recited in Claim 20 wherein said means for detecting and annunciating includes a display for visually annunciating said at least one fault.

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23. The testing device as recited in Claim 14 wherein said means for testing includes means for conducting said test of said electrical system from an electrical receptacle.

24. The testing device as recited in Claim 23 wherein said means for conducting includes an alternating current plug having at least two prongs, and means for generating a test signal between the prongs of said alternating current plug.

25. A testing system for detecting and locating an arcing fault in an electrical system, said arcing fault having a plurality of characteristics, said testing system comprising:

means for producing an arcing signal to cause at least one of the characteristics of said arcing fault; and

a testing device comprising:

means for detecting said at least one of the characteristics of said arcing fault proximate said arcing fault and outputting a responsive signal, and

means for annunciating said responsive signal when said means for detecting is proximate said arcing fault.

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